1.	Record Nr.	UNINA9910788869503321
	Titolo	Colloidal quantum dot optoelectronics and photovoltaics / / edited by Gerasimos Konstantatos, Edward H. Sargent [[electronic resource]]
	Pubbl/distr/stampa	Cambridge : , : Cambridge University Press, , 2013
	ISBN	1-139-88994-X
		1-107-47169-9
		1-107-46464-1
		1-107-47270-9
		1-139-02275-X
		1-107-46801-9
		1-107-45998-2
	Descrizione fisica	1 online resource (xiv, 314 pages) : digital, PDF file(s)
	Classificazione	TEC021000
	Disciplina	537.5
	Soggetti	Quantum electronics
		Quantum dots
		Photovoltaic cells
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Note generali	Title from publisher's bibliographic system (viewed on 05 Oct 2015).
	Nota di bibliografia	Includes bibliographical references and index.
	Nota di contenuto	Enginneering colloidal quantum dots: synthesis, surface chemistry, and self-assembly / Maryna I. Bodnarchuck and Maksym V. Kovalenko -- Aqueous based colloidal quantum dots for optoelectronics / Vladimir Lesnyak and Nikolai Gaponik -- Electronic structure and optical transitions in colloidal semiconductor nanocrystals / Todd D. Krauss and Jeffrey J. Peterson -- Charge and energy transfer in polymer/nanocrystal blends: physics and devices / Kevin M. Noone and Davis S. Ginger -- Multiple exciton generation in semiconductor quantum dots and electronically coupled quantum dot arrays for application to third-generation photovoltaic solar cells / Matthew C. Beard, Joey M. Luther, and Arthur J. Nozik -- Colloidal quantum dot light emiting devices / Vanessa Wood, Matthew Panzer, Seth-Coe Sullivan, and Vladimir Bulovic -- Colloidal quantum dot photodetectors / Gerasimos Konstantatos -- Optical gain and lasing in colloidal quantum dots / Sjoerd Hoogland -- Heterojunction solar cells based on

colloidal quantum dots / Jeffrey J. Urban and Delia J. Milliron -- Solution-processed infrared quantum dot solar cells / Jiang Tang and Edward H. Sargent -- Semiconductor quantum dot sensitized TiO mesoporous solar cells / Lioz Etgar, Hyo Joong Lee, Sang II Seok, Md. K. Nazeeruddin, and Michael Gratzel.

| Sommario/riassunto | Capturing the most up-to-date research in colloidal quantum dot (CQD) devices, this book is written in an accessible style by the world's leading experts. The application of CQDs in solar cells, photodetectors and light-emitting diodes (LEDs) has developed rapidly over recent years, promising to transform the future of clean energy, communications, and displays. This complete guide to the field provides researchers, students and practitioners alike with everything they need to understand these developments and begin contributing to future applications. Introductory chapters summarise the fundamental physics and chemistry, whilst later chapters review the developments that have propelled the field forwards, systematically working through key device advances. The science of CQD films is explained through the latest physical models of semiconductor transport, trapping and recombination, whilst the engineering of organic and inorganic multilayered materials is shown to have enabled major advances in the brightness and efficiency of CQD LEDs. |

2.	Record Nr.	UNINA9910788635303321
	Titolo	Randomization, relaxation, and complexity in polynomial equation solving : Banff International Research Station Workshop on Randomization, Relaxation, and Complexity, February 28-March 5, 2010, Banff, Ontario, Canada / / Leonid Gurvits [and three others], editors
	Pubbl/distr/stampa	Providence, Rhode Island : , : American Mathematical Society, , [2011] ©2011
	ISBN	0-8218-8235-X 0-8218-8380-1
	Descrizione fisica	1 online resource (230 p.)
	Collana	Contemporary mathematics, ; 556 , 0271-4132
	Classificazione	11Y1612Y0514M2514P2514Q2014T0552B5565H0465Y20
	Disciplina	512.9/422
	Soggetti	Number theory Algorithms Geometry, Algebraic
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Note generali	Description based upon print version of record.
	Nota di bibliografia	Includes bibliographical references and index.
	Nota di contenuto	Contents -- Preface -- Multivariate Ultrametric Root Counting -- A Parallel Endgame -- Efficient Polynomial System Solving by Numerical Methods -- Symmetric Determinantal Representation of Formulas and Weakly Skew Circuits -- Mixed Volume Computation in Solving Polynomial Systems -- A Search for an Optimal Start System for Numerical Homotopy Continuation -- Complex Tropical Localization, and Coamoebas of Complex Algebraic Hypersurfaces -- 1. Introduction -- 2. Preliminaries -- 3. Complex tropical hypersurfaces with a simplex Newton polytope -- 4. Tropical mirror hypersurfaces -- 5. Coamoebas of complex tropical hypersurfaces -- 6. Coamoebas of complex algebraic hypersurfaces -- 7. Examples of complex algebraic plane curves coamoebas -- References -- Randomization, Sums of Squares, Near-Circuits, and Faster Real Root Counting -- Dense Fewnomials -- The Numerical Greatest Common Divisor of Univariate Polynomials.